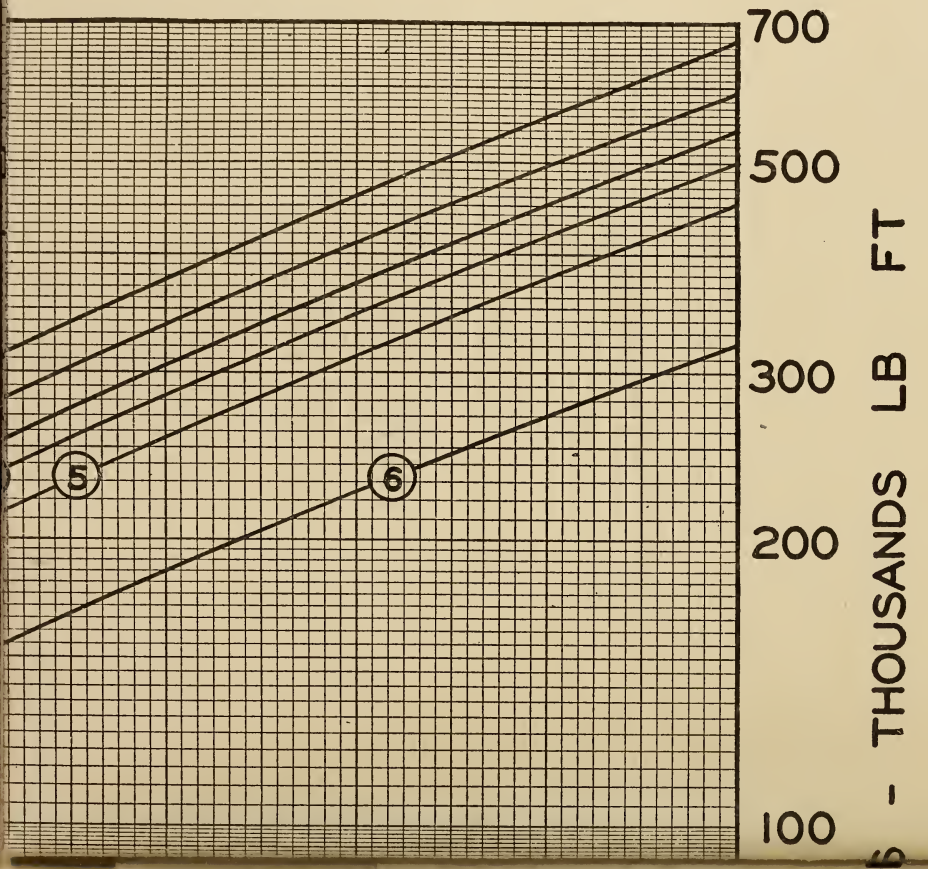
MISCELLANEOUS PUBLICATION M176
CHART 2B

OD POLES



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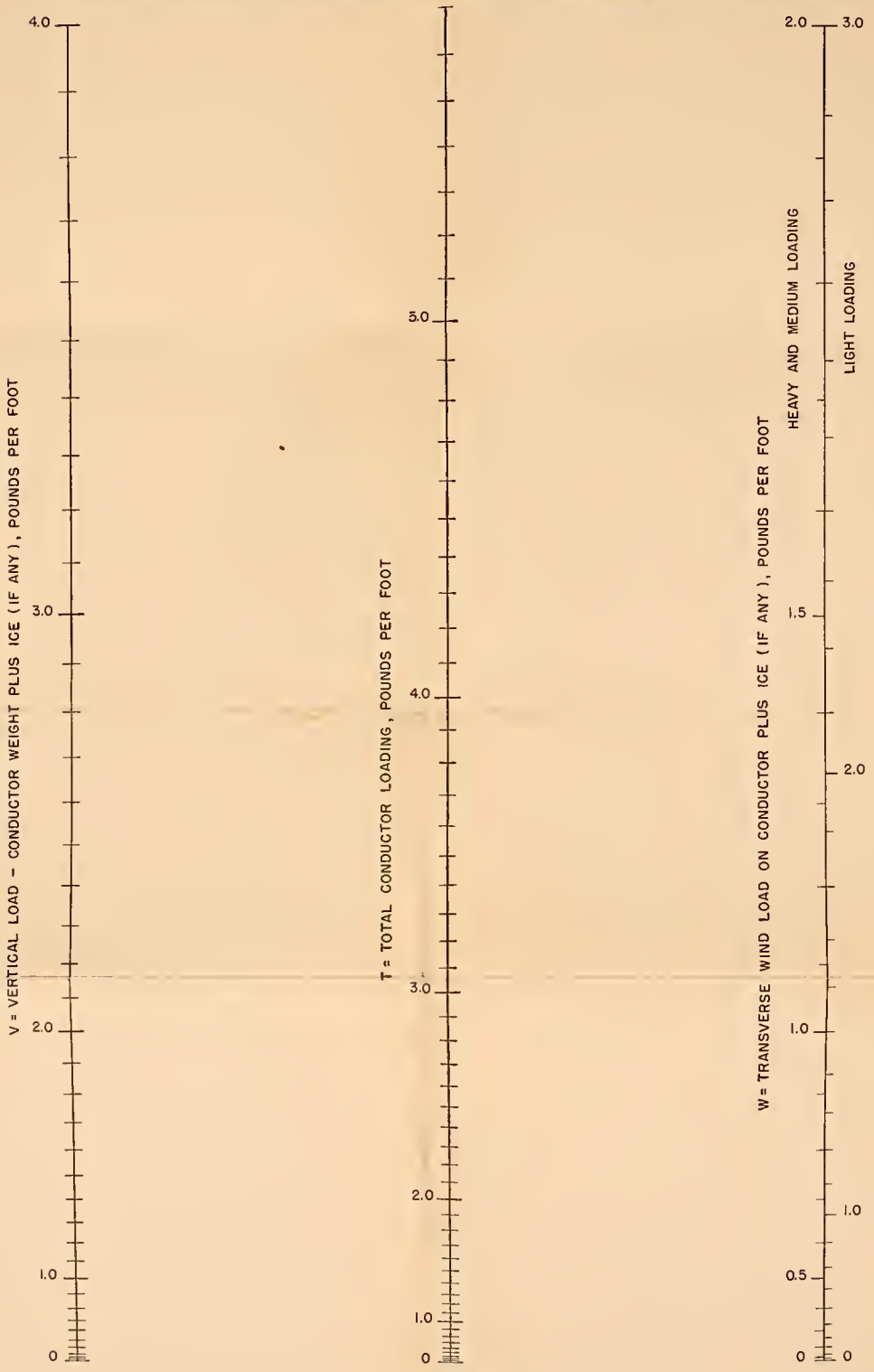
MISCELLANEOUS PUBLICATION M176
CHART 1A
Issued August 7, 1944
Price 25 cents (5 charts)

CONDUCTOR LOADING NOMOGRAPH

VERTICAL, TRANSVERSE AND CONDUCTOR LOADS - LB PER LINEAR FT OF CONDUCTOR



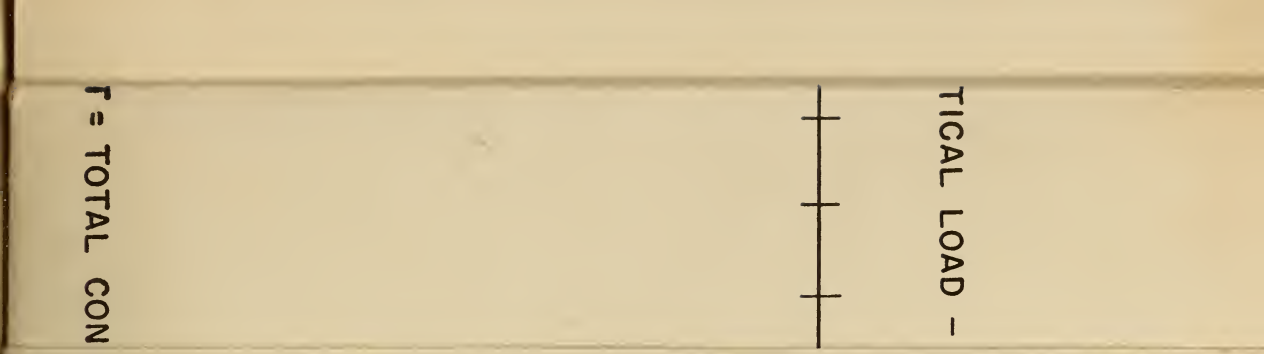
CONNECT V AND W WITH STRAIGHT EDGE AND READ T

Chart 1A.—*Conductor loading nomograph, vertical, transverse, and conductor loads—pounds per linear foot of conductor*
(Enlerged from fig. 16 of Discussion Handbook H39, NESC, part 2)

Note.—This device provides a sufficiently precise graphic method of determining "conductor loading" values, except for certain conductors when used in the light-loading district. However, in determining permissible sags and tensions in such a district, the variations found between the values obtained by this chert and values computed in accordence with rule 251, part 2, NESC (H32) are of little importence, since one of the unloaded tension limits of rule 261,F,4 will control, except for unusually long spens.

25—40593-1

For sale by Superintendent of Documents, Washington 25, D. C. Price 25 cents



MISCELLANEOUS PUBLICATION M176
CHART 1B

ING NOMOGRAPH

LOADS - LB PER LINEAR FT OF CONDUCTOR

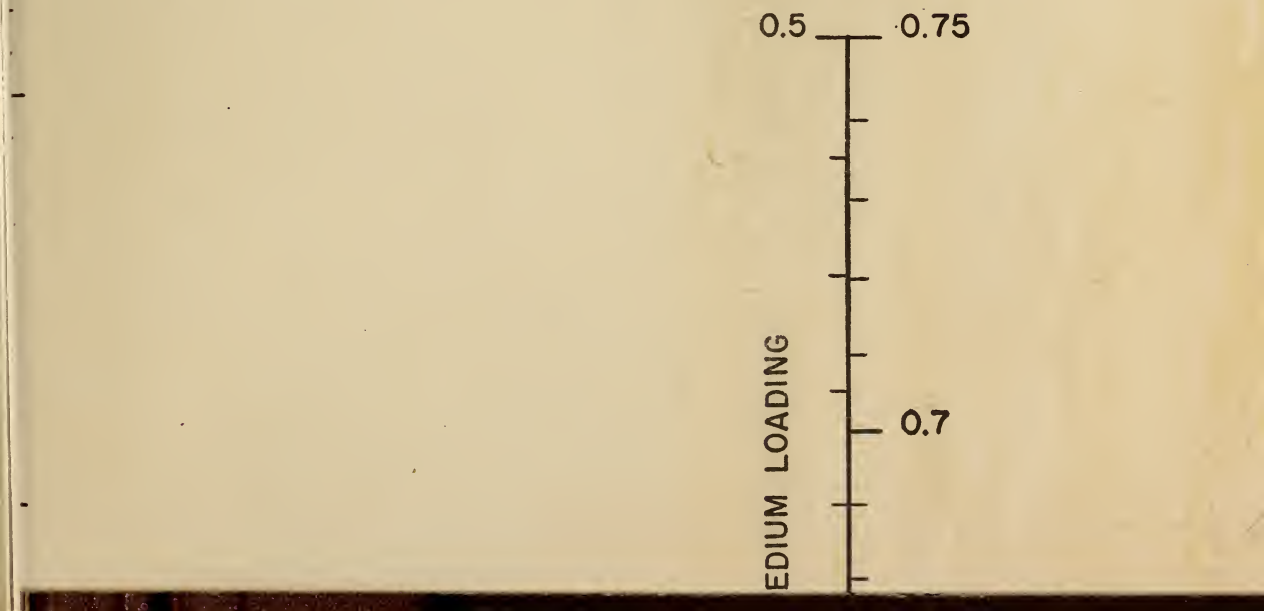


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CHART 1B

CONDUCTOR LOADING NOMOGRAPH

VERTICAL, TRANSVERSE AND CONDUCTOR LOADS - LB PER LINEAR FT OF CONDUCTOR

CONNECT V AND W WITH STRAIGHT EDGE AND READ T

[See note on opposite side.]

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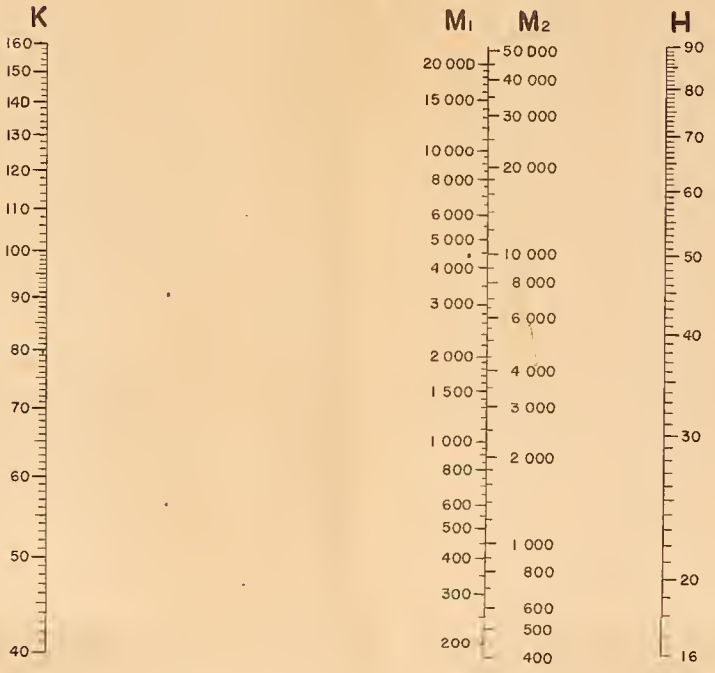
CHART 2A

BENDING MOMENT
DUE TO WIND PRESSURE ON POLE



$K = 2T + G$ WHERE T = CIRCUMFERENCE AT POLE TOP, IN INCHES
AND G = CIRCUMFERENCE AT GROUND LINE, IN INCHES.

H = HEIGHT OF POLE ABOVE GROUND LINE, IN FEET.

M_1 = MOMENT AT GROUND LINE FOR HEAVY AND MEDIUM LOADING, IN POUND-FEET.

M_2 = MOMENT AT GROUND LINE FOR LIGHT LOADING, IN POUND-FEET.

LAY STRAIGHTEDGE ACROSS CHART FROM K TO H AND READ BENDING MOMENT AT M_1 OR M_2

Chart 2A.—*Bending moment due to wind pressure on pole*
(Enlarged from fig. 19 of Discussion Handbook H39, NESC, part 2)

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CHART 2B

ULTIMATE RESISTING MOMENTS OF WOOD POLES

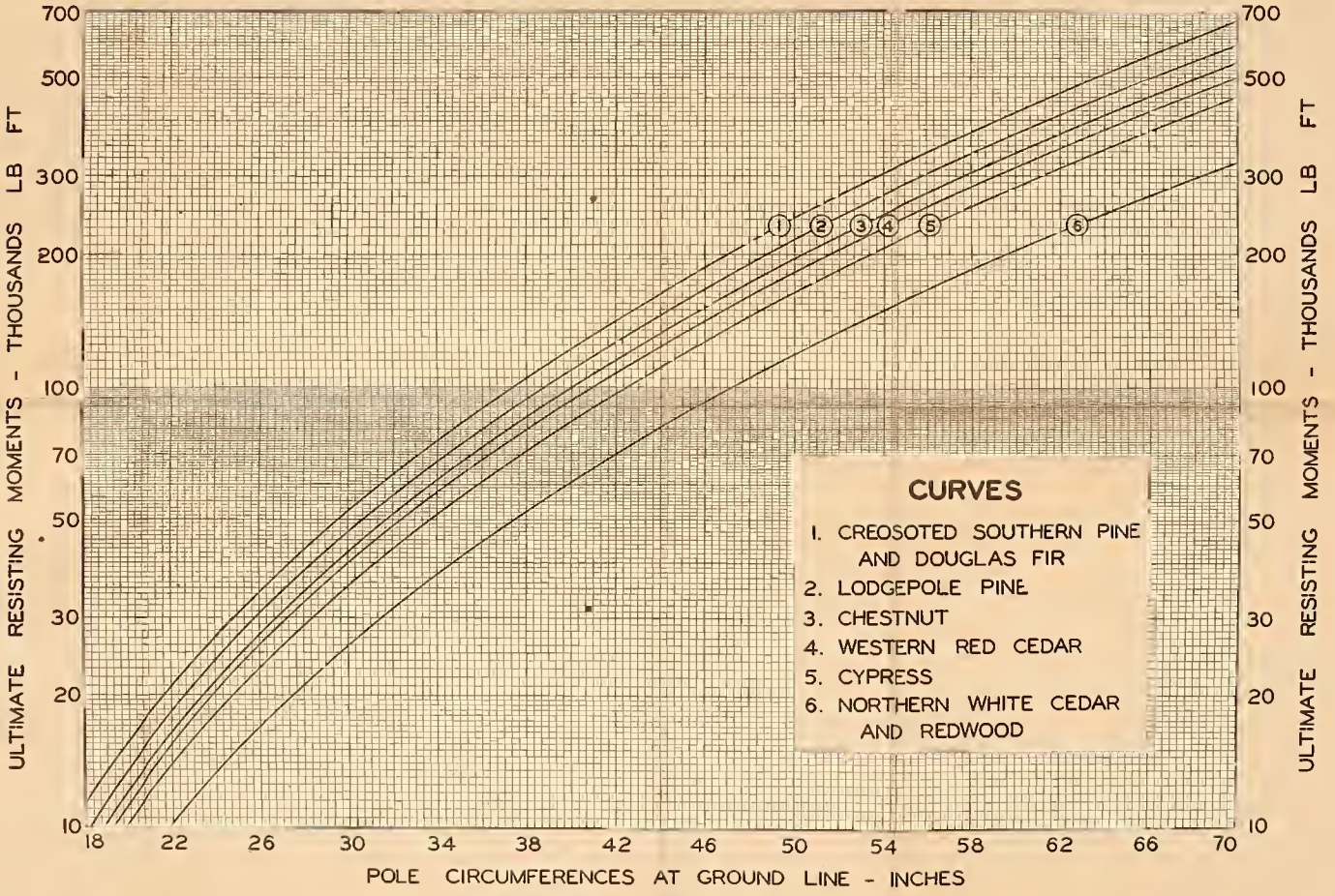

Chart 2B.—*Ultimate resisting moments of wood poles*
(Enlarged from fig. 20 of Discussion Handbook H39, NESC, part 2)

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CHART 3

CATENARY CURVE

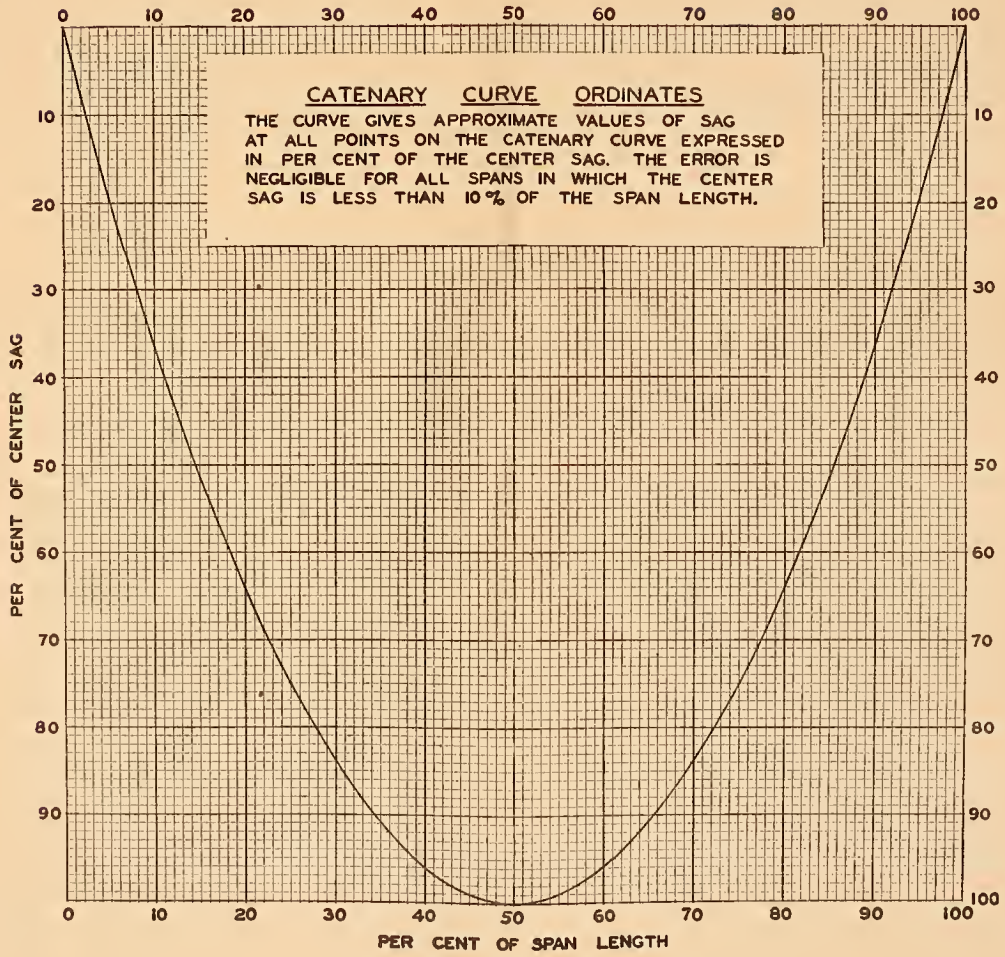
CATENARY CURVE ORDINATES
THE CURVE GIVES APPROXIMATE VALUES OF SAG AT ALL POINTS ON THE CATENARY CURVE EXPRESSED IN PER CENT OF THE CENTER SAG. THE ERROR IS NEGLIGIBLE FOR ALL SPANS IN WHICH THE CENTER SAG IS LESS THAN 10% OF THE SPAN LENGTH.
PER CENT OF CENTER SAG
PER CENT OF SPAN LENGTH
0 10 20 30 40 50 60 70 80 90 100

Chart 3.—*Catenary curve*

(Enlarged from fig. 18 of Discussion Handbook H39, NFSC, part 2)

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U. S. DEPARTMENT OF COMMERCE
HENRY A. WALLACE, Secretary
NATIONAL BUREAU OF STANDARDS
LYMAN J. BRIGGS, Director

MISCELLANEOUS PUBLICATION M180
Issued June 1, 1945

GUIDE – CHART FOR CARBON – BRUSH TERMINALS (ELECTRIC)

ALL DIMENSIONS IN INCHES

INTEGRAL HORSEPOWER OR INDUSTRIAL BRUSH SHUNT TERMINALS

GENERAL PURPOSE

FLAG TYPE

NO.	A	B	C
1.1	5/32	3/8	7/16
1.2	7/32	3/8	7/16
1.3	7/32	1/2	1/2
1.4	9/32	5/8	13/16

OPTIONAL HOLE OR SLOT

STRAIGHT COLLAR

NO.	A	B	C
2.1	5/32	3/8	5/8
2.2	7/32	1/2	13/16
2.3	9/32	9/16	15/16

OPTIONAL HOLE OR SLOT

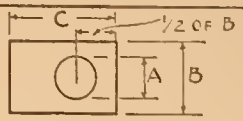
HEAVY CURRENT

CUT TYPE

NO.	A	B	C
3.1	7/32	9/16	1 1/8
3.2	9/32	9/16	1 1/8
3.3	11/32	11/16	1 1/8
3.4	13/32	13/16	1 1/8

SLOT ONLY

PRESSED TUBE TYPE

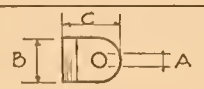


NO.	A	B	C
4.1	9/32	9/16	1
4.2	11/32	5/8	1
4.3	13/32	3/4	1

OPTIONAL HOLE OR SLOT

FRACTIONAL HORSEPOWER BRUSH SHUNT TERMINALS BOX TYPE HOLDER

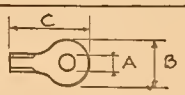
FLAG TYPE



NO.	A	B	C
5.1	1/8	1/4	1/4
5.2	5/32	9/32	5/16

OPTIONAL HOLE OR SLOT

STRAIGHT COLLAR



NO.	A	B	C
6.1	1/8	1/4	1/2
6.2	5/32	9/32	1/2

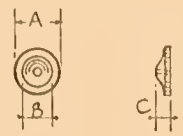
OPTIONAL HOLE OR SLOT

TOLERANCES: FOR SHUNT TERMINALS LENGTH AND WIDTH PLUS OR MINUS 1/32
HOLE OR SLOT – PLUS 0.000 MINUS 0.010

FRACTIONAL HORSEPOWER BRUSH TERMINALS – CARTRIDGE TYPE HOLDERS

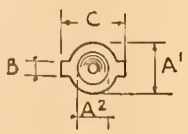
STAMPED ROUND DISCS

NO EARS



NO.	A	B	C
7.1	3/16	1/8	1/16
7.2	1/4	3/16	1/16
7.3	5/16	7/32	1/16
7.4	3/8	9/32	1/16
7.5	7/16	5/16	3/32
7.6	9/16	7/16	1/8
7.7	3/4	1/2	1/8

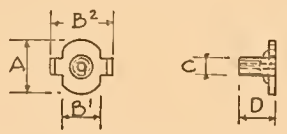
FLAT EARS



NO.	A'	A2	B	C
8.1	5/16	7/32	5/32	23/64
8.2	3/8	9/32	5/32	31/64
8.3	7/16	5/16	7/32	19/32
8.4	5/8	1/2	9/32	13/16

ROUND CAPS

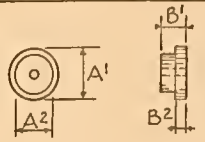
STAMPED BENT EARS



NO.	A	B'	B2	C	D
9.1	1/4	3/16	7/32	.175	3/16
9.2	1/4	3/16	7/32	.085	3/16
9.3	5/16	3/16	9/32	.175	1/4
9.4	5/16	3/16	9/32	.085	1/4
9.5	3/8	3/16	9/32	.175	1/4
9.6	3/8	3/16	9/32	.085	1/4
9.7	1/2	11/32	7/16	.240	5/16
9.8	9/16	11/32	7/16	.240	5/16
9.9	11/16	7/16	1/2	.350	5/16
9.10	1 1/8	13/16	31/32	.350	7/16

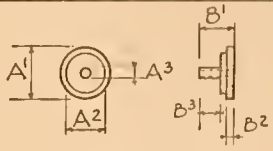
TURNED BRASS ROUND BUTTONS

WITH NECK



NO.	A'	A2	B'	B2
10.1	7/32	5/32	3/32	3/64
10.2	1/4	3/16	3/32	3/64
10.3	9/32	7/32	1/8	1/16
10.4	11/32	9/32	1/8	1/16
10.5	1/2	11/32	1/8	1/16
10.6	9/16	13/32	1/8	1/16

WITH NECK & NIPPLE



NO.	A'	A2	A3	B'	B2	B3
11.1	5/16	7/32	3/32	3/16	3/64	3/32
11.2	11/32	1/4	3/32	3/16	3/64	3/32
11.3	3/8	9/32	3/32	3/16	3/64	3/32

TOLERANCES: FOR DISCS, CAPS AND BUTTONS ALL DIMENSIONS PLUS 0.000 MINUS 0.008

Enlargement of chart printed in Simplified Practice Recommendation R210 45, Carbon Brush Terminals (Electric), Effective July 15, 1945, and available also from the Superintendent of Documents at 5 cents a copy.

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